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ABSTRACT

The Testing Center at Central Piedmont Community College (CPCC) in North Carolina, Educational Testing Service, and the College Board are participating jointly in pilot and field testing Computerized Placement Tests (CPTs). CPTs, which assess communications, reading, and mathematics skills, have the following benefits: (1) students may take the self-test at their convenience, either on their first visit to campus or by scheduling an appointment during Testing Center hours; (2) the tests are untimed, allowing students to progress through them at their own pace; (3) the tests can be individualized; and (4) students have immediate results at the completion of testing. The CPTs also resolve some of the commonly raised issues about testing. First, CPTs address the problem of lack of agreement about what constitutes college-level work by establishing a standard that can be used from college to college. Second, CPTs ensure that students are placed into the correct courses. Third, the tests are appropriate for the growing percentage of adult students in that they facilitate the assessment of prior learning, and can be taken quickly at convenient times. Fourth, since high school grades are no longer reliable indicators of student learning, CPTs, combined with other diagnostic evaluations, provide some reference for admission decisions. And finally, CPTs, which are based on an extensive body of research, can be relied upon to accurately assess college freshmen. (EJV)

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COMPUTERIZED PLACEMENT TESTING AND ACADEMIC PLACEMENT

League for Innovation Conference
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The Testing Center at CPCC has participated with Educational Testing Service and The College Board in pilot testing and field testing of Computerized Placement Tests (CPT). CPCC uses the CPT as an innovative method for placing students in communications, reading and mathematics. This method helps students by allowing them to test at their convenience with an instrument that adapts to their ability, to progress through the tests at their own pace, and to have immediate results at the completion of testing. Because of Computerized Placement Testing and the model Testing Center at CPCC, visitors from across the U.S. call or visit the Center frequently.

The Testing Center combines course testing, placement testing, and certification exams in one area especially designed for testing. While we do not have all the space and equipment we desire, we do have a center that demonstrates a model for college and community testing.

Since assessment is such an important part of every phase of the new SACS (Southern Association of Colleges and Schools) criteria for college standards, placement testing takes on new meaning for those colleges that try to meet these standards.

Efficient placement contributes to student success, teaching-learning applicability, and institutional effectiveness. The problems and benefits associated with assessment become relative to successful placement.

Student success is the product of institutional effectiveness and correct placement is the keystone of student success. Students come to college with widely varying skills and varied expectations. The college must assess where the student stands in relation to desired goals. If this assessment is suitable, accurate, convenient, and speedy, students will continue their education without undue frustration.

Some of the problems involved in placement include:

1. Lack of agreement about what constitutes college level work

A recent report by Southern Regional Education Board depicts the wide range of standards accepted for entrance into college level courses. Some colleges accept 7th grade reading level while others demand 13th grade level; one college requires 14th percentile on math while another requires 94th percentile before allowing college-level courses.

Southern Regional Education Board reports that about 100 different combinations of 70 different tests are used in placement for reading, writing, and mathematics. Cut-scores vary from 1st percentile to 66th percentile on some tests indicating a

lack of standards for college level work. For example, this slide shows three well-known tests and the wide range of cut-scores used for acceptance into college level courses.

2. Recognizing the importance of correct placement.

The importance of correct placement is now recognized by marketing and "success in college" groups (Rounds and Anderson, 84-85). Students placed in a class above their ability probably will not be successful, will not remain in school, will not return for other courses and will not recommend the college to other possible students. Correct placement is essential. Valid tests and carefully set cut-scores help.

3. Awareness of who is today's college student

Adults returning to complete education or to retrain constitute a large part of today's college population. The American Council on Education (spring, 1987) reported that the adult learners are the fastest growing segment of college students and that by 1990, the majority of enrolled college students will be part-time adult learners. Since 1980, the 30-34 year old group has increased by 17% and is now the largest age group in the country. At the same time, the 15-19 group shrank by 12% (Higher Education Advocate, May 15, 1987). At CPCC, the average student is 31 years old.

4. Widely varying standards

Widely varying standards in high school grades has rendered this time-honored gage of student work unreliable for college entrance. Roueche, Baker and Roueche (1987) reported that high school grade point averages are no longer indicative of student preparedness for college. Therefore, colleges must use entry level testing to determine student skills.

5. Adult illiteracy

Adult illiteracy in the U.S. is shocking. Corporations recognize that workers need education and basic skills to handle jobs such as painting, maintenance, and repair. Dr. Robert McCabe, President of Miami-Dade, (AACJC Convention, Dallas, 1987) stated that immediately after World War II, 80% of jobs required unskilled or semi-skilled workers. Today 20% of jobs require this type worker.

Last, but not least, we want to know how well the college functions and

6. How to demonstrate accountability

Everyone is facing accountability - students, instructors, colleges, business. Politicians want to know what they're

getting for tax dollars. Business wants to know how much time retraining of workers will take. Students want to know what they can gain by attending college. Administrators want to know how efficiently the teaching dollars are spent.

Solutions:

1. (problem = lack of agreement for college level work)

Goals of the ACE's Center for Adult Learning and Educational Credentials focus around the theme "all one learning system." In this system, students of all ages and varied skills plug into a national system at their level and continue until their educational goal is met. In education, "all one learning system" will require standardization of what constitutes college level work including reading, communications and mathematics. With agreement on college level work, placement would be more uniform and retesting from college to college would be unnecessary.

2. (problem = correct placement)

Correct placement impacts on many facets of the college. By using valid placement instruments and carefully monitoring cut-scores, accurate placement should be the rule. Diagnostic tests should complement placement tests in order to identify areas of weakness. Diagnostic tests can help the students and

instructors pinpoint the specific areas that need further development for the most effective student learning.

3. (problem = who is today's student)

Assessment of prior learning is becoming more important. Many adults have on-the-job experiences that are useful. Adults with business and family demands as well as educational aspirations need convenience to help them get into the correct classes to meet their needs. Quick, convenient assessment is essential.

4. (problem = varying standards)

Entry level testing becomes more important since high school grades are generally not reliable indicators of student success. Tests combined with other evaluations provide some reference for entry decisions. Placement, diagnostic, aptitude, vocational and assessment of prior learning may be needed in various combinations to help students understand their abilities and interests.

5. (problem = illiteracy)

The National Literacy Project has brought the problem of illiteracy to the public's attention with special TV promotions, public service announcements and phone numbers to call for additional information. With 23 million Americans illiterate, our national and competitive status is threatened. Effective education is essential to meet the demands of today's world.

6 (problem = accountability)

Some states, such as Florida (CLAST), Georgia, South Dakota and Tennessee are using competency tests (reported by Boyer et al, 1987, in the AAHE Bulletin). New Jersey, with 10 years of New Jersey Basic Skills Testing data, has a clear picture of entering college freshmen. The Computerized Placement Tests are based on these thousands of students and the research done to determine their needs and abilities. With this large base of information, these tests appear to have the background to do a reliable job of assessing the college freshman.

Professional organizations are using certification exams to offer proof of competency. Standards are being set in most professions so employers will feel confident when hiring.

SUMMARY:

The computer has opened many new doors for testing applications. Self test, immediate scoring, on demand testing, touch screens for manual dexterity tests and hands-on applications in the technological areas have brought testing into a new day.

Standard tests such as ASVAB, GATB and GED are being computerized for easy use and fast reporting. New tests are being developed to take advantage of computer capabilities. Educational Testing Service and College Board have been leaders in using computers for administration of tests. Their Computerized Placement Test (CPT), SIGI, and JOBTAP II are in use and their Diagnostic Assessment Program (DAP) is developing.

At CPCC, we have used Computerized Placement Tests since 1985 as a method for quickly and conveniently assessing students for placement in communications, reading and arithmetic. The student may take placement tests on the first visit to campus or may schedule an appointment for a convenient time during Testing Center hours which are 7:30 am to 8:00 pm, Monday through Thursday, and 7:30 to 4:30 on Friday.

By taking advantage of this technology, we are able to easily schedule the working or handicapped student: no one is rushed because tests are untimed and the score is available when the student completes the test. If time is critical, registration may be completed after testing. Otherwise, students make an appointment to see the counselor and then register.

Students do not need to have any experience with computers. Only three keys are used to operate the program. A survey in 1984 showed students preferred computer testing to pencil/paper testing.

In our particular case, ETS equated the CPT scores to our traditional paper/pencil tests so that counselors would have some guidelines when using the CPT scores. As you will see, ETS did a good job of equating the scores. The correlations of grade in course and placement score are unimpressive, but are about the same for both types of tests. We use both CPT and pencil/paper tests, but about 85% test on computers.

We would like to develop our own norms at CPCC. Our math department, through tracking research, has determined that the CPT and the inhouse math placement tests are equally effective in placing students into college level courses.

The English Department feels placement cut-scores for college level classes may need to be raised. They are trying to determine how much and how to do this fairly without confusion.

This chart shows national norms for CPT based on 50th percentile for a sample at five four-year colleges. CPCC's 50th percentile and mean scores have ~~somewhat~~ relative positions.

When using any new test, we look for data to help decide how good the test really is. As you know, many factors influence statistics and until you know the factors, the numbers are meaningless. The big factor that influences all of our figures is the withdrawal rate in community colleges. These students dropout for many reasons including family life, jobs, money, relationships and other non academic reasons. I don't have to explain this problem to community college personnel. Our student body does not have the stability of four-year institutions or private two-year colleges.

We think the most outstanding attributes of CPT are the convenience with which it may be administered, the individualized test based on adaptive selection of questions, and the opportunity for the students to work at their own pace. The college benefits from immediate scoring and from uploading of scores by technology to computer and permanent records.

Our off-campus centers offer convenient placement testing too, so their students may test, register and take classes without having to come to the main campus. CPCC has probably given more Computerized Placement Tests than any school in the country: about 9000. by utilizing the power of the computer to construct individualized tests, we should do a better job of assessment. We think computer testing is the wave of the future.

Two chapters in The Future of Testing discuss the advantages of computer adaptive testing and the possibilities for the future. With the advances and availability of hardware and software and the continuing reductions in cost, it makes sense to take advantage of this technology to help students meet their goals. Dr. Nancy Cole's chapter on "Future Directions of Educational Testing," points out that testing must be efficient, economical, and practical. As excellence is stressed, the higher learning forms of comprehension, analysis and evaluation will become more important. Computer algorithms allow evaluation of these learning forms. Computerized testing holds the promise of a revolution in educational testing.

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